zirconium hydroxide; from 1 to 3 wt% sulfuric acid radicals in terms of a sulfur amount based on the total weight of the catalyst composition; and from 0.05 to 10 wt% palladium and from 0.05 to 10 wt% platinum, based on the total weight of the catalyst composition, wherein the catalyst has a specific surface area of from 50 to 150 m^2/g after stabilization by burning at a temperature of from 550 to 800°C, wherein the hydrodesulfurization and isomerization are simultaneously achieved with the catalyst composition.

9. (Amended) A process for producing the catalyst composition of claim 7 wherein the support comprises the zirconium hydroxide, comprising:

(1) treating the zirconium hydroxide of claim 7 with a substance giving sulfuric acid radicals; impregnating the resultant zirconium hydroxide which has been treated with the substance giving sulfuric acid radicals with a palladium compound and a platinum compound and burning the impregnated material at a temperature of from 550 to 800°C; or

(2) treating the zirconium hydroxide of claim 7 with a substance giving sulfuric acid radicals, burning the zirconium hydroxide which has been treated with the substance giving sulfuric acid radicals at a temperature of from 550 to 800°C; impregnating the resultant burned material with a palladium compound and a platinum compound and burning the impregnated material at a temperature of from 300 to 700°C; or

(3) kneading the zirconium hydroxide of claim 7, a substance giving sulfuric acid radicals, and a palladium compound and a platinum compound and burning the mixture at a temperature of from 550 to 800°C; or

(4) kneading the zirconium hydroxide of claim 7 and a substance giving sulfuric acid radicals; burning the mixture at a temperature of from 550 to 800^{0}C; impregnating the resultant burned material with a palladium compound and a platinum compound and burning the impregnated material at a temperature of from 300 to 700^{0}C.

(4) kneading the zirconium hydroxide of claim 7 and a substance giving sulfuric acid radicals; burning the mixture at a temperature of from 550 to 800^{0}C; impregnating the resultant burned material with a palladium compound and a platinum compound and burning the impregnated material at a temperature of from 300 to 700^{0}C.